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GENERAL ELECTRIC COMPANY		
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EXAMINER	
VARGAS, DIXOMARA	

ART UNIT	PAPER NUMBER
2859	

NOTIFICATION DATE	DELIVERY MODE
12/14/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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717

Office Action Summary	Application No. 10/672,658	Applicant(s) AMM ET AL.	
	Examiner Dixomara Vargas	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 13-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 35-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species:
 - a. Species I directed towards a permanent magnet assembly with 4 steps.
 - b. Species II directed towards a permanent magnet assembly with 2 hollow surfaces.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. During a telephone conversation with Jean K. Testa on 12/05/07 a provisional election was made without traverse to prosecute the invention of Specie I, claims 1-12 and 35-45. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-34 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 2859

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 44 recites the limitation "the movable permanent magnet" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

Art Unit: 2859

7. Claims 1-12 and 35-45 are rejected under 35 U.S.C. 102(f) because the applicant did not invent the claimed subject matter. The US patent 7,148,689 B2 discloses the same subject matter as the current application. However, the current application has 3 additional inventors for the subject matter, Paul Shadforth, Bulent Aksel and Johannes Martinus.

8. Claims 1-6, 11-12, 35-39, 42 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Laskaris et al. (US 6,518,867)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claim 1, Laskaris discloses a permanent magnet assembly for an imaging apparatus (Figure 7) comprising a permanent magnet body (#15) having a first surface (Figure 2, #17) and a stepped second surface (Figure 2, #19) which is adapted to face an imaging volume of the imaging apparatus (as seen on Figure 7), wherein the stepped second surface contains at least four steps (Column 8, lines 58-61; Figures 7 and 15).

9. With respect to claim 2, Laskaris discloses at least one layer of soft magnetic material attached to a substantially flat first surface of the permanent magnet body (Column 7, lines 62-67).

Art Unit: 2859

10. With respect to claim 3, Laskaris discloses the permanent magnet body comprises a permanent magnet RMB material, where R comprises at least one rare earth element and M comprises at least one transition metal (Column 9, lines 45-61).

11. With respect to claim 4, Laskaris discloses the permanent magnet RMB material comprises 13-19 atomic percent R, 4-20 atomic percent B and the balance M, where R comprises 50 atomic percent or greater Pr, 0.1-10 atomic percent of at least one of Ce, Y and La, and the balance Nd, and M comprises Fe; and the at least one layer of a soft magnetic material comprises a laminate of Fe-Si, Fe--Al, Fe--Co, Fe--Ni, Fe--Al--Si, Fe--Co--V, Fe--Cr--Ni or amorphous Fe- or Co-base alloy layers (Columns 9-10, lines 45-67 and 1-10 respectively).

12. With respect to claim 5, Laskaris discloses the permanent magnet body comprises: a cylindrical base section having a major first surface attached to the at least one layer of a soft magnetic material and a major second surface having at least three steps, wherein the second surface of the base section is opposite to the first surface of the base section; and a hollow ring section attached to an outer portion of second surface of the base section (Column 6, lines 20-66, see Figure 3).

13. With respect to claim 6, Laskaris discloses the first and second surfaces of the base section and the first and second surfaces of the hollow ring section are arranged substantially perpendicular to a direction of a magnetic field of the magnet assembly (Figure 7); the stepped second surface of the permanent magnet body comprises the second surface of the hollow ring section and a portion of the second surface of the base section that is not covered by the ring section; the base section comprises at least two layers of permanent magnet blocks; and at least

Art Unit: 2859

two of the steps in the second surface of the base section are machined into the second surface of the base section (Figure 3).

14. With respect to claim 11, Laskaris discloses a central step of the stepped second surface comprises a protrusion (Column 12, lines 7-14).

15. With respect to claim 12, Laskaris discloses a magnetic imaging apparatus (Figure 7), comprising: a yoke comprising a first portion, a second portion and at least one third portion connecting the first and the second portions such that an imaging volume is formed between the first and the second portions; the permanent magnet assembly of claim 1 attached to the first yoke portion; a second permanent magnet assembly attached to the second yoke portion (Column 7, lines 45-61), wherein the second permanent magnet assembly comprises a second permanent magnet body having a first surface and a stepped second surface which is adapted to faces the imaging volume of the imaging apparatus (Figures 3, 7 and 15), wherein the stepped second surface contains at least four steps (Column 8, lines 58-61; Figures 7 and 15); and wherein the apparatus does not contain a pole piece or a gradient coil between the imaging surfaces of the permanent magnet bodies of the first and the second magnet assemblies and the imaging volume (Figures 7 and 8).

16. With respect to claim 35, Laskaris discloses a permanent magnet assembly for an imaging apparatus comprising a permanent magnet body (Figures 7-8, #15) having a first surface and a stepped second surface (Figure 2, #17 and #19) which is adapted to face an imaging volume of the imaging apparatus (as seen on Figures 7-8), wherein a central step of the stepped second surface comprises a protrusion (Column 12, lines 7-14).

Art Unit: 2859

17. With respect to claim 36, Laskaris discloses at least one layer of soft magnetic material attached to a substantially flat first surface of the permanent magnet body (Column 7, lines 62-67).

18. With respect to claim 37, Laskaris discloses the permanent magnet body comprises a permanent magnet RMB material, where R comprises at least one rare earth element and M comprises at least one transition metal; the permanent magnet RMB material comprises 13-19 atomic percent R, 4-20 atomic percent B and the balance M, where R comprises 50 atomic percent or greater Pr, 0.1-10 atomic percent of at least one of Ce, Y and La, and the balance Nd, and M comprises Fe; and the at least one layer of a soft magnetic material comprises a laminate of Fe--Si, Fe--Al, Fe--Co, Fe--Ni, Fe--Al--Si, Fe--Co--V, Fe--Cr--Ni or amorphous Fe- or Co-base alloy layers (Columns 9-10, lines 45-67 and 1-10 respectively).

19. With respect to claim 38, Laskaris discloses the permanent magnet body comprises: a cylindrical base section having a major first surface attached to the at least one layer of a soft magnetic material and a major second surface having at least three steps, wherein the second surface of the base section is opposite to the first surface of the base section; and a hollow ring section attached to an outer portion of second surface of the base section (Column 6, lines 20-66, see Figure 3).

20. With respect to claim 39, Laskaris discloses the first and second surfaces of the base section and the first and second surfaces of the hollow ring section are arranged substantially perpendicular to a direction of a magnetic field of the magnet assembly (Figure 7); the stepped second surface of the permanent magnet body comprises the second surface of the hollow ring section and a portion of the second surface of the base section that is not covered by the ring

Art Unit: 2859

section; the base section comprises at least two layers of permanent magnet blocks; and at least two of the steps in the second surface of the base section are machined into the second surface of the base section (Figure 3).

21. With respect to claim 42, Laskaris discloses the stepped second surface comprises a plurality of rings (Figures 7 and 15); the central step comprises a solid central ring; outer steps comprise a plurality of hollow rings (Figures 3 and 7); and the solid central ring has a height that is greater than a height of a first hollow ring adjacent to the solid central ring, but less than a height of other plurality of hollow rings (Columns 5-6, lines 48-67 and 31-64 respectively).

22. With respect to claim 45, Laskaris discloses a magnetic imaging apparatus (Figure 7), comprising: a yoke comprising a first portion, a second portion and at least one third portion connecting the first and the second portions such that an imaging volume is formed between the first and the second portions; the permanent magnet assembly of claim 1 attached to the first yoke portion; a second permanent magnet assembly attached to the second yoke portion (Column 7, lines 45-61), wherein the second permanent magnet assembly comprises a second permanent magnet body having a first surface and a stepped second surface which is adapted to faces the imaging volume of the imaging apparatus (Figures 3, 7 and 15), wherein the stepped second surface contains at least four steps (Column 8, lines 58-61; Figures 7 and 15); and wherein the apparatus does not contain a pole piece or a gradient coil between the imaging surfaces of the permanent magnet bodies of the first and the second magnet assemblies and the imaging volume (Figures 7 and 8).

Allowable Subject Matter

23. Claims 7-10, 40-41, 43 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter:

25. With respect to claim 7, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a permanent magnet assembly for an imaging apparatus comprising the second surface of the ring section extends at least 0.05 meters above an outer step on the second surface of the base section to form a pocket in combination with the remaining limitations of claims 1-2 and 5-6 above.

26. With respect to claims 8-9, the claims have been found allowable due to its dependency on claim 7 above.

27. With respect to claim 10, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a movable permanent magnet body which is movable with respect to the second surface of permanent magnet body in combination with the remaining limitations of claim 1 above.

28. With respect to claim 40, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a permanent magnet assembly for an imaging apparatus comprising the second surface of the ring section extends at least 0.05 meters above an outer step on the second surface of the base section to form a pocket; and a height of the at least three steps in the base is less than 0.03 meters in combination with the remaining limitations of claims 35 and 38-39 above.

Art Unit: 2859

29. With respect to claim 41, the claim has been found allowable due to its dependency on claim 40 above.

30. With respect to claim 43, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a permanent magnet assembly for an imaging apparatus comprising a movable permanent magnet body which is movable with respect to the second surface of permanent magnet body in combination with the remaining limitations of claim 35 above.

31. Claim 44 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

32. With respect to claim 44, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a permanent magnet assembly for an imaging apparatus comprising a movable permanent magnet body located in an opening extending from the first surface of the permanent magnet body partially through the permanent magnet body in combination with the remaining limitations of claim 35 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

Art Unit: 2859

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571) 272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dixomara Vargas
Patent Examiner
Art Unit 2859